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APPLICANT : NIPPON STEEL CORP;

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TITLE : Si-CONTAINING GALVANIZED HIGH STRENGTH STEEL SHEET HAVING GOOD CORROSION RESISTANCE AND ITS MANUFACTURING METHOD

ABSTRACT : PROBLEM TO BE SOLVED: To provide a high Si-containing high strength galvanized steel sheet having good a coating property and an excellent corrosion resistance without requiring new equipments, and its manufacturing method.

SOLUTION: A Zn-Al-Fe alloy plating or a Zn-Al-Mg-Fe alloy plating is formed on the surface of a steel sheet containing 0.4-2.0 wt.% Si which is the oxidized state (SiO₂) in the inner sheet. The inner SiO₂ is produced at the time, the steel sheet is oxidized under atmosphere having 0.9-1.2 fuel/air ratio in the oxidizing zone, and successively is reduced in the reducing zone, under an atmosphere controlled where the Si content (mass %) (CSi), a water partial pressure (PH₂O) and a hydrogen partial pressure (PH₂) satisfy the following inequality. $-0.8 \geq \log(PH_2O/PH_2) \leq 0.5CSi - 3$.

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